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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/368,354	08/05/1999	ROBERT R. BUCKLEY	103044	5438

7590   04/18/2006

OLIFF & BERRIDGE PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER
POKRZYWA, JOSEPH R

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 04/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2006*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21 and 23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Applicant's amendment was received on 1/19/06, and has been entered and made of record. Currently, **claims 1-21, and 23** are pending.

Response to Arguments

2.   The declaration filed on 1/19/06 under 37 CFR 1.131 is sufficient to overcome the Blair *et al.* (U.S. Patent Number 6,031,630) reference.

3.   Applicant's arguments, see pages 6 and 7, filed 1/19/06, with respect to the rejection(s) of claim(s) 1-5, 10-14, 19, 21-23 under 35 U.S.C. 102(e) as being anticipated by Blair *et al.*, have been fully considered and are persuasive in view of the declaration filed on 1/19/06 under 37 CFR 1.131. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Motta *et al.* (U.S. Patent Number 5,402,245).

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   **Claims 1-5, 10-14, 19, 21, and 23** are rejected under 35 U.S.C. 102(b) as being anticipated by Motta *et al.* (U.S. Patent Number 5,402,245).

Regarding *claim 1*, Motta discloses a method of processing image data of a color image

for marking (see abstract), the color image containing overmarked pixels where at least one first

color is to be overmarked by a second color (see abstract and column 2, lines 32-column 3, line

68), the method comprising generating information that designates the overmarked pixels

(column 2, lines 32-column 3, line 32, and column 6, lines 34-61), performing raster image

processing to create a raster image of the color image (column 2, lines 43-column 3, line 15,

column 4, line 44-column 5, line 7, and column 7, lines 60-68), the raster image processing

including overmarking processing that allows both the at least one first color and the second

color to be separately included in the overmarked pixels in the same raster image (see Fig. 1,

column 4, line 27-column 5, line 33 and column 7, lines 60-68), and modifying image data of the

overmarked pixels in the raster image to achieve undercolor reduction by reducing a value

corresponding to a reduced amount of an underlying marking material (column 3, lines 39-68,

and column 5, lines 8-64).

Regarding *claim 2*, Motta discloses the method discussed above in claim 1, and further

teaches that the modifying the image data of the overmarked pixels comprises modifying image

data corresponding to the at least one first color (column 3, lines 39-68, and column 5, lines 8-

64).

Regarding *claim 3*, Motta discloses the method discussed above in claim 1, and further

teaches of outputting the raster image, including the modified image data, to a marking driver

(see Fig. 1, column 4, line 27-column 5, line 33 and column 7, lines 60-68).

Regarding *claim 4*, Motta discloses the method discussed above in claim 1, and further

teaches that the modifying image data of the overmarked pixels comprises modifying a value of

the image data corresponding to the at least one first color (column 3, lines 39-68, and column 5, lines 8-64).

Regarding *claim 5*, Motta discloses the method discussed above in claim 4, and further teaches that the modified value of the image data corresponding to the at least one first color results in a reduced amount of marking material corresponding to the at least one first color being applied to a marking substrate (column 3, lines 39-68, column 5, lines 8-64, and column 7, lines 60-68).

Regarding *claim 10*, Motta discloses a system that processes image data of a color image for marking (see abstract), the color image containing overmarked pixels where at least one first color is to be overmarked by a second color (see abstract and column 2, lines 32-column 3, line 68), the system comprising an overmarked pixel designator that generates information that designates the overmarked pixels (column 2, lines 32-column 3, line 32, and column 6, lines 34-61), a rater image processor that creates a raster image of the color image (column 2, lines 43-column 3, line 15, column 4, line 44-column 5, line 7, and column 7, lines 60-68), the raster image processor provided with an overmarking function that allows both the at least one first color and the second color to be separately included in the overmarked pixels in the same raster image (see Fig. 1, column 4, line 27-column 5, line 33 and column 7, lines 60-68), and an image data modification unit that modifies image data of the overmarked pixels in the raster image to achieve undercolor reduction by reducing a value corresponding to a reduced amount of an underlying marking material (column 3, lines 39-68, and column 5, lines 8-64).

Regarding *claim 11*, Motta discloses the system discussed above in claim 10, and further

teaches that the modified image data is image data corresponding to the at least one first color

(column 3, lines 39-68, and column 5, lines 8-64).

Regarding *claim 12*, Motta discloses the system discussed above in claim 10, and further

teaches of a marking driver that performs marking according to the raster image, including the

modified image data (see Fig. 1, column 4, line 27-column 5, line 33 and column 7, lines 60-68).

Regarding *claim 13*, Motta discloses the system discussed above in claim 10, and further

teaches that the image data modification unit modifies a value of the image data corresponding to

the at least one first color (column 3, lines 39-68, and column 5, lines 8-64).

Regarding *claim 14*, Motta discloses the system discussed above in claim 10, and further

teaches of a marking driver performs marking according to the raster image that includes the

modified image data, wherein the marking driver marks a reduced amount of marking material

corresponding to the at least one first color on a marking substrate based on the modified value

of the image data corresponding to the at least one first color (column 3, lines 39-68, column 5,

lines 8-64, and column 7, lines 60-68).

Regarding *claim 19*, Motta further discloses a printer incorporating the system set forth in

claim 10 (printer 20, column 4, lines 19-43).

Regarding *claim 21*, Motta further discloses a storage medium on which is stored a

program that implements the method set forth in claim 1 (column 4, line 27-column 5, line 14).

Regarding *claim 23*, Motta discloses a method of processing image data of a color image

for marking (see abstract), the color image containing overmarked pixels where at least one first

CMY color is to be overmarked by a black color (see abstract and column 2, lines 32-column 3,

line 68), the method comprising generating information that designates the overmarked pixels

(column 2, lines 32-column 3, line 32, and column 6, lines 34-61), performing raster image

processing to create a raster image of the color image (column 2, lines 43-column 3, line 15,

column 4, line 44-column 5, line 7, and column 7, lines 60-68), the raster image processing

including overmarking processing that allows both the at least one first CMY color and the black

color to be separately included in the overmarked pixels in the same raster image (see Fig. 1,

column 4, line 27-column 5, line 33 and column 7, lines 60-68), and modifying CMY image data

of the overmarked pixels in the raster image to achieve undercolor reduction by modifying only a

value corresponding to a reduced amount of an underlying CMY marking material (column 3,

lines 39-68, and column 5, lines 8-64).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the
> manner in which the invention was made.

7.   **Claims 6-9, 15-18, and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Motta *et al.* (U.S. Patent Number 5,402,245) in view of Miller *et al.* (U.S. Patent Number

5,731,823, cited in the Office action dated 12/2/05).

Regarding *claim 6*, Motta discloses the method discussed above in claim 1, and but fails

to expressly disclose if the generating information that designates the overmarked pixels

comprises generating tags that correspond to the overmarked pixels.

Miller discloses a method of processing image data of a color image for marking (see abstract), the color image containing overmarked pixels where at least one first color is to be overmarked by a second color (column 6, lines 25 through 52), the method comprising generating information that designates the overmarked pixels (column 3, lines 35 through 50, and column 6, line 25 through column 7, line 13), performing raster image processing to create a raster image of the color image (column 5, lines 33 through 43, and column 7, lines 14 through 21), the raster image processing including overmarking processing that allows both the at least one first color and the second color to be separately included in the overmarked pixels in the same raster image (column 5, line 33-column 6, line 63, and column 7, lines 21-45), and modifying image data of the overmarked pixels in the raster image (column 5, lines 44 through 67, and column 7, lines 21 through 64). Further, Miller teaches that the generating information that designates the overmarked pixels comprises generating tags that correspond to the overmarked pixels (column 3, lines 35 through 50, column 6, line 25 through column 7, line 13, and column 8, lines 6-18).

Motta & Miller are combinable because they are from the same field of endeavor, being printing devices that process overlapping image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have Miller's tag generation teachings included within the image processing teachings of Motta. The suggestion/motivation for doing so would have been that Motta's system would conform with well known standards in the art of rasterizing image data in color printers, whereby the type of data is identified and tagged, as recognized by Miller in column 6, lines 13-63, thus being an efficient, automated system.

Therefore, it would have been obvious to combine the teachings of Miller with the system of Motta to obtain the invention as specified in claim 6.

Regarding *claim 7*, Motta and Miller disclose the method discussed above in claim 6, and Miller further teaches that the overmarked pixels correspond to a black image and the tags indicate that the overmarked pixels are black image pixels (column 6, line 25-column 7, line 54, and column 8, lines 6-18).

Motta & Miller are combinable because they are from the same field of endeavor, being printing devices that process overlapping image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have Miller's tag generation teachings included within the image processing teachings of Motta. The suggestion/motivation for doing so would have been that Motta's system would conform with well known standards in the art of rasterizing image data in color printers, whereby the type of data is identified and tagged, as recognized by Miller in column 6, lines 13-63, thus being an efficient, automated system. Therefore, it would have been obvious to combine the teachings of Miller with the system of Motta to obtain the invention as specified in claim 7.

Regarding *claim 8*, Motta and Miller disclose the method discussed above in claim 6, and Miller further teaches that the overmarked pixels correspond to one of black text and a black stroke (column 6, line 25-column 7, line 54), and the tags indicate that the overmarked pixels are one of black text pixels and black stroke pixels (column 6, line 25-column 7, line 54, and column 8, lines 6-18).

Motta & Miller are combinable because they are from the same field of endeavor, being printing devices that process overlapping image data. At the time of the invention, it would have

been obvious to a person of ordinary skill in the art to have Miller's tag generation teachings

included within the image processing teachings of Motta. The suggestion/motivation for doing so

would have been that Motta's system would conform with well known standards in the art of

rasterizing image data in color printers, whereby the type of data is identified and tagged, as

recognized by Miller in column 6, lines 13-63, thus being an efficient, automated system.

Therefore, it would have been obvious to combine the teachings of Miller with the system of

Motta to obtain the invention as specified in claim 8.

Regarding *claim 9*, Motta discloses the method discussed above in claim 1, but fails to

expressly disclose if the generating information that designates the overmarked pixels comprises

performing pattern recognition that recognizes specified patterns, and designating pixels that

form the recognized patterns as the overmarked pixels.

Miller discloses a method of processing image data of a color image for marking (see

abstract), the color image containing overmarked pixels where at least one first color is to be

overmarked by a second color (column 6, lines 25 through 52), the method comprising

generating information that designates the overmarked pixels (column 3, lines 35 through 50,

and column 6, line 25 through column 7, line 13), performing raster image processing to create a

raster image of the color image (column 5, lines 33 through 43, and column 7, lines 14 through

21), the raster image processing including overmarking processing that allows both the at least

one first color and the second color to be separately included in the overmarked pixels in the

same raster image (column 5, line 33-column 6, line 63, and column 7, lines 21-45), and

modifying image data of the overmarked pixels in the raster image (column 5, lines 44 through

67, and column 7, lines 21 through 64). Further, Miller teaches that the generating information

that designates the overmarked pixels comprises performing pattern recognition that recognizes specified patterns (see abstract, column 3, lines 35 through 65), and designating pixels that form the recognized patterns as the overmarked pixels (column 6, line 25 through column 7, line 54).

Motta & Miller are combinable because they are from the same field of endeavor, being printing devices that process overlapping image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have Miller's pattern recognition teachings included within the image processing teachings of Motta. The suggestion/motivation for doing so would have been that Motta's system would conform with well known standards in the art of image data processing in color printers, whereby the type of data is identified and characterized, as recognized by Miller in column 6, lines 13-63, thus being an efficient, automated system. Therefore, it would have been obvious to combine the teachings of Miller with the system of Motta to obtain the invention as specified in claim 9.

Regarding *claim 15*, Motta discloses the system discussed above in claim 10, but fails to expressly teach if the overmarked pixel designator comprises a tag generator that generates tags that correspond to the overmarked pixels.

Miller discloses a system that processes image data of a color image for marking (see abstract), the color image containing overmarked pixels where at least one first color is to be overmarked by a second color (column 6, lines 25 through 52), the system comprising an overmarked pixel designator that generates information that designates the overmarked pixels (column 3, lines 35 through 50, and column 6, line 25 through column 7, line 13), a raster image processor that creates a raster image of the color image (column 5, lines 33 through 43, and column 7, lines 14 through 21), the raster image processor provided with an overmarking

function that allows both the at least one first color and the second color to be separately

included in the overmarked pixels in the same raster image (column 5, line 33-column 6, line 63,

and column 7, lines 21-45), and an image data modification unit that modifies image data of the

overmarked pixels in the raster image (column 5, lines 44 through 67, and column 7, lines 21

through 64). Further, Miller teaches that the overmarked pixel designator comprises a tag

generator that generates tags that correspond to the overmarked pixels (column 3, lines 35

through 50, column 6, line 25 through column 7, line 13, and column 8, lines 6-18).

Motta & Miller are combinable because they are from the same field of endeavor, being

printing devices that process overlapping image data. At the time of the invention, it would have

been obvious to a person of ordinary skill in the art to have Miller's tag generation teachings

included within the image processing teachings of Motta. The suggestion/motivation for doing so

would have been that Motta's system would conform with well known standards in the art of

rasterizing image data in color printers, whereby the type of data is identified and tagged, as

recognized by Miller in column 6, lines 13-63, thus being an efficient, automated system.

Therefore, it would have been obvious to combine the teachings of Miller with the system of

Motta to obtain the invention as specified in claim 15.

Regarding *claim 16*, Motta and Miller disclose the system discussed above in claim 15,

and Miller further teaches that the overmarked pixels correspond to a black image and the tags

indicate that the overmarked pixels are black image pixels (column 6, line 25-column 7, line 54,

and column 8, lines 6-18).

Motta & Miller are combinable because they are from the same field of endeavor, being

printing devices that process overlapping image data. At the time of the invention, it would have

been obvious to a person of ordinary skill in the art to have Miller's tag generation teachings

included within the image processing teachings of Motta. The suggestion/motivation for doing so

would have been that Motta's system would conform with well known standards in the art of

rasterizing image data in color printers, whereby the type of data is identified and tagged, as

recognized by Miller in column 6, lines 13-63, thus being an efficient, automated system.

Therefore, it would have been obvious to combine the teachings of Miller with the system of

Motta to obtain the invention as specified in claim 16.

Regarding *claim 17*, Motta and Miller disclose the system discussed above in claim 15,

and Miller further teaches that the overmarked pixels correspond to one of black text and a black

stroke (column 6, line 25-column 7, line 54), and the tags indicate that the overmarked pixels are

one of black text pixels and black stroke pixels (column 6, line 25-column 7, line 54, and column

8, lines 6-18).

Motta & Miller are combinable because they are from the same field of endeavor, being

printing devices that process overlapping image data. At the time of the invention, it would have

been obvious to a person of ordinary skill in the art to have Miller's tag generation teachings

included within the image processing teachings of Motta. The suggestion/motivation for doing so

would have been that Motta's system would conform with well known standards in the art of

rasterizing image data in color printers, whereby the type of data is identified and tagged, as

recognized by Miller in column 6, lines 13-63, thus being an efficient, automated system.

Therefore, it would have been obvious to combine the teachings of Miller with the system of

Motta to obtain the invention as specified in claim 17.

Regarding *claim 18*, Motta discloses the system discussed above in claim 10, but fails to

expressly teach if the overmarked pixel generator comprises a pattern recognition device that

recognizes specified patterns, and designates pixels that form the recognized patterns as the

overmarked pixels.

Miller discloses a system that processes image data of a color image for marking (see

abstract), the color image containing overmarked pixels where at least one first color is to be

overmarked by a second color (column 6, lines 25 through 52), the system comprising an

overmarked pixel designator that generates information that designates the overmarked pixels

(column 3, lines 35 through 50, and column 6, line 25 through column 7, line 13), a raster image

processor that creates a raster image of the color image (column 5, lines 33 through 43, and

column 7, lines 14 through 21), the raster image processor provided with an overmarking

function that allows both the at least one first color and the second color to be separately

included in the overmarked pixels in the same raster image (column 5, line 33-column 6, line 63,

and column 7, lines 21-45), and an image data modification unit that modifies image data of the

overmarked pixels in the raster image (column 5, lines 44 through 67, and column 7, lines 21

through 64). Further, Miller teaches that the overmarked pixel generator comprises a pattern

recognition device that recognizes specified patterns (see abstract, column 3, lines 35 through

65), and designates pixels that form the recognized patterns as the overmarked pixels (column 6,

line 25 through column 7, line 54).

Motta & Miller are combinable because they are from the same field of endeavor, being

printing devices that process overlapping image data. At the time of the invention, it would have

been obvious to a person of ordinary skill in the art to have Miller's pattern recognition teachings

included within the image processing teachings of Motta. The suggestion/motivation for doing so would have been that Motta's system would conform with well known standards in the art of image data processing in color printers, whereby the type of data is identified and characterized, as recognized by Miller in column 6, lines 13-63, thus being an efficient, automated system. Therefore, it would have been obvious to combine the teachings of Miller with the system of Motta to obtain the invention as specified in claim 18.

Regarding *claim 20*, Motta fails to expressly disclose a digital copier incorporating the system set forth in claim 10.

Miller discloses a system that processes image data of a color image for marking (see abstract), the color image containing overmarked pixels where at least one first color is to be overmarked by a second color (column 6, lines 25 through 52), the system comprising an overmarked pixel designator that generates information that designates the overmarked pixels (column 3, lines 35 through 50, and column 6, line 25 through column 7, line 13), a raster image processor that creates a raster image of the color image (column 5, lines 33 through 43, and column 7, lines 14 through 21), the raster image processor provided with an overmarking function that allows both the at least one first color and the second color to be separately included in the overmarked pixels in the same raster image (column 5, line 33-column 6, line 63, and column 7, lines 21-45), and an image data modification unit that modifies image data of the overmarked pixels in the raster image (column 5, lines 44 through 67, and column 7, lines 21 through 64). Miller further discloses a digital copier incorporating the system set forth in claim 10 (column 11, line 45 through column 12, line 6).

Motta & Miller are combinable because they are from the same field of endeavor, being printing devices that process overlapping image data. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teachings of Miller having a digital copier incorporating the system, in the system of Motta. The suggestion/motivation for doing so would have been that Motta's system would be usable in various embodiments, thereby being usable by more users, as recognized by Miller in column 12, lines 1-26. Therefore, it would have been obvious to combine the teachings of Miller with the system of Motta to obtain the invention as specified in claim 20.

Citation of Pertinent Prior Art

8.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Aida (U.S. Patent Number 5,920,645) discloses an image forming apparatus having an undercolor removal process.

Conclusion

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joe Pokrzywa whose telephone number is (571) 272-7410. The examiner can normally be reached on Monday-Friday, 9:00-5:00.
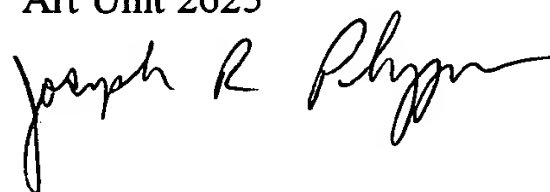
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joseph R. Pokrzywa
Primary Examiner
Art Unit 2625

jrp